

A Structural Equation Modeling Analysis of the Effect of Religion on Adolescent Delinquency

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Statement of the Research problem

Juvenile offending has been a nationally recognized persistent social problem. Even though federal statistics indicate 11 percent decrease in juvenile arrests from 1999 to 2003, age distribution figures for the Crime Index still show that 24 percent of those arrested for violent crime such as robbery were under the age of 18 (OJJDP Statistical Briefing Book, 2005). Also, despite little evidence regarding the increase of juvenile crimes, public concerns have escalated with intense media coverage on violent juvenile offending.

Accordingly, there been a constant effort to find causes of delinquent behavior. Literature on juvenile delinquency has found several risk factors related to delinquency. Examples of these factors include poor parent-child relationship, family disruptions, association with delinquent peers, academic failure, and neighborhood disorder (Elliott et al., 1996; Matsueda & Heimer, 1987; Rankin & Wells, 1990; Thornberry et al., 1991). Although causes of delinquency are regularly debated, there is a broad consensus that juvenile delinquency is determined by multiple factors and interventions for juvenile delinquency should be based on a comprehensive strategy that includes adolescents' various social environment (Henggeler et al., 1994; Von Dorn & Williams, 2003). An increasing number of intervention strategies have taken into account multiple factors such as family, peer, school, and neighborhood together in developing intervention programs for delinquent adolescents.

However, these interventions strategies are yet to be fully comprehensive. One critical limitation is the exclusion of religious factors from an adolescent's social context.

Two decades ago, Wilson & Herrnstein (1985) noted, "of all the gaps in our knowledge of the causes of crime, the one that has struck us most forcefully is the lack of systematic studies of the relationship between religiosity and criminality" (p. 527). However, the failure to integrate religion into research is still pervasive. Although there is increasing attention being given to the role of religion in academia, recent analysis of studies published in Social Science Abstract and PsycINFO data bases between 1990 and

2002 found that only 1.1 percent of the studies addressed adolescent religiosity/spirituality (Benson et al., 2003).

The study of the relationships between religion and delinquency is significantly important in several aspects. For instance, it is essential for social workers to have comprehensive understanding of adolescents' social environments to help them because adolescents cannot be juxtaposed with their environment. If social workers discount the importance of religiosity for adolescents, social worker will be unable to work "with the person in the environment," which includes the religious aspects of adolescents' lives. Furthermore, although an inclusion of religious factors in public brings more heat than light, a variety of bills (e.g., a Youth Drug Treatment Bill by Senator Jack Reed) stipulate the utilization of religious associations to provide services beginning with the Charitable Choice provisions of the 1996 welfare reform legislation (Greenberg, 2000). For example, Florida Department of Children and Family Services (FDCFS) provided \$46 million in funding for social work performed by faith-based organizations, which includes funding for religious institutions to administer services for the juvenile justice system (DeSchryver, 2000). Clarification of the relationship between religion and delinquency could have important implications for policy implementation of interventions that are utilized to assist juvenile delinquents.

Research Background and Hypothesis

Previous criminological and sociological research has consistently demonstrated that religious adolescents are less delinquent than non-religious adolescents in their behavior patterns (Brownfield & Sorenson, 1991; Cochran, 1988; Johnson et al., 2000, Johnson et al., 2001; Sloan & Potvin, 1986; Stark et al., 1982). However, among these studies, there are still several major points of controversy and findings that remain suggestive rather than conclusive (Brenda, 1997). The current status of research on the religious belief-delinquency connection is well summarized in the statement of Grasmick et al., (1992) that "at least some aspects of religion inhibit at least some kinds of illegal behavior at least under some conditions" (p. 251). Even though there is increasing agreement that religion is an inhibitor of delinquency rather than a contributor, the nature of a relationship between religiosity and delinquency is still controversial and unclear. There are four main reasons for these ambiguous mixed findings on the study of the religion-delinquency relationship.

First, although strength of a religious effect varies depending on different offense types, religious traditions, and social environment, previous studies are not refined enough to account for these variations. For example, many contradictory findings may have stemmed from the integration of all types of delinquent acts into one composite measure (Welch et al., 1991). Various types of delinquent behaviors may be related to religiosity in different ways (Elifson et al., 1983). Second, many previous studies do not consider other known antecedent factors related to delinquency; thus, there is a great possibility for specification errors. The study of the religion-delinquency relationship fails to control for the effect of other adolescent's social contexts such as family, peers, school, and neighborhood (Jang & Johnson, 2000).

Third, the lack of theory-driven models is a major drawback in the study of religion and delinquency (Johnson et al., 2001). The lack of theory-based research has rendered confusing findings because theory enables the researcher to have consistency in scientific studies. Fourth, these varied findings in previous studies may be due to problems in methodological approaches. Also, despite the impact of research methodologies on research findings, much of the research on religiosity and juvenile delinquency has not dealt sufficiently with measurement errors. For example, 65 percent of previous studies on religion-delinquency relationships in the recent 13-year period have used church attendance as the sole measure of religiosity (Johnson et al., 2000). However, church attendance as the only measure of religiosity can be erroneous because many religious people attend church infrequently or never attend, and many nonreligious people attend church and yet are not concerned about church at all (Stark et al., 1982).

A number of researchers have acknowledged that the link between religious belief and delinquency is far more complicated than is suggested by the previous studies. Johnson, De Li, Larson and McCullough (2000) conducted a systematic review of the religiosity and delinquency literature dating from 1985 to 1997. Results show that there is a consistent negative relationship between religiosity and deviance in the most rigorous studies.

In context, the present study intended to overcome the limitations of previous studies. First, the present study applies multivariate procedures to examine the independent effect of religiosity on delinquent behaviors within the major social context of family, peers, school, and neighborhood. Second, this study breaks delinquency down into two separate components such as minor and serious delinquent behaviors in order to consider the multidimensionality of delinquency. Also, the present study utilizes multiple indicators in order to control measurement errors. Finally, the study is based on a comprehensive theoretical framework through theoretical elaboration of social control theory with differential association theory. Social control theory is extended through the addition of concepts from differential association theory. The study is based on a conceptual framework in which delinquency occurs among adolescents who have weak social control/bond to conventional institutions and among those who are exposed to a learning process through peer association.

Therefore, the main purpose of this study was to analyze longitudinal data set using more advanced statistical methods to examine: (1) whether adolescents who have religious beliefs are less likely to commit delinquent behavior; (2) whether the effects of religiosity on delinquency are inverse and independent effects after controlling other social variables; (3) whether the effects of religious beliefs vary across different types of delinquent behavior such as minor offenses and serious offenses; (4) whether religious beliefs strengthen social bonding to conventional institutions such as family, school, and neighborhood; and (5) whether religious beliefs decrease the harmful influence of delinquent peers.

Methodology

A subset of the National Longitudinal Study of Adolescent Health is used for this study. This public-use data contains information on adolescents in grades 7 through 12 consisting of one-half of the nationally representative core sample (6504), chosen at random with one-half of the over-sample of African-American adolescents with a parent who has a college degree. This study utilized two waves of in-home interviews conducted with adolescents in 1995 and 1996. Exogenous variables are chosen from the wave 1 data and endogenous variables were taken from the wave 2 data.

Due to the longitudinal nature of this dissertation, it was important to include only adolescents who were in both waves for the study. About 75 percent of the wave 1 sample (4,834) was interviewed in wave 2. Also, because it is essential to have information about parent and school contexts, adolescents without the information were excluded from the present study. A total of 4,412 adolescents were included for the present study. Because this sample attrition rate is relatively high, it is important to examine the sample for selectivity bias. In terms of the sample compositions, there is no evidence for systematic bias or difference between those respondents who finished the study and those who left.

As the study is based on secondary data analysis, selection of measurement appropriate for a construct is one of the most important steps. The indicators for latent variables are determined through theoretical and empirical references in the literature. Multiple measures of a construct are used for the present study because it results in greater measurement reliability. The structural equation model (SEM) was the primary analytic method utilized to examine a series of relationships among variables simultaneously without being influenced by measurement errors. The detailed relationships among these variables are displayed in diagrammatic form in Figure 1. In order to apply SEM in estimating the casual model of the present study, Equations (EQS) program is incorporated for computerized analysis.

A covariance matrix is used as an input data form as most estimation methods in SEM presume the analysis of unstandardized variables. The Maximum Likelihood method (ML) is utilized for a method of model estimation. The proposed model generated unique solutions. The overall model fit is assessed with several goodness-of-fit indexes because a single index reflects only a particular aspect of fit. For the present study, five fit indexes were utilized: Chi-square statistics (X^2), Comparative Fit Index (CFI), Goodness of Fit (GFI), Adjusted Goodness of Fit (AGFI) and Root Mean Square Error of Approximation (RMSEA). Results of the estimated model are shown in Table 1.

Following the examination of the overall model fit indexes, individual parameter estimates are assessed in order to examine feasibility of their estimated values for both minor and serious offenses. There were no individual parameters with unreasonable estimates “falling outside of acceptable range” (i.e. standard errors that are extremely large or small, correlation greater than 1, and negative variance) (Byrne, 1994). Within the measurement model, all of the measured variables were significant indicators of their respective latent constructs.

Results

The results of the study indicate adolescent religious beliefs played significant roles in deterring serious delinquent behaviors. Also, the study appears to support the significant independent effects of adolescent religiosity on serious delinquent behaviors even after controlling for other social variables such as attachment to parents, school commitment, delinquent friends, and attachment to neighborhood. Yet, the results were somewhat different for minor offenses. There was no association between religious beliefs and minor delinquent behaviors. It is a surprising finding because this result is a deviation from earlier studies. Previous studies consistently found support for a stronger direct relationship between adolescent religiosity and minor offenses than religiosity and serious offenses (Cochran, 1988; Elifson et al., 1983).

This deviation might be explained by several factors. First of all, it is possible that the characteristics of the sample itself contributed to a difference between the present study and previous studies. For example, previous research on religiosity often used the data collected from a sample containing a disproportionately large number of adolescents from rural areas or drawn from a relatively prosperous county (Johnson et al., 2000). However, the present sample is from nationally representative data, albeit nonrandomly selected. Another plausible explanation is that the impact of religion on minor delinquency may vary by religion or denomination and the extent to which the religion disapproves of particular behaviors. For instance, many religions do not teach against all alcohol use (e.g., Catholicism, Judaism). Furthermore, it might be related to adolescent's perception of certain behaviors as acceptable regardless of social and religious sanctions. Even if adolescents have religious beliefs, it is possible that they see religion as irrelevant to experimenting with smoking and alcohol. In this case, religious sanctions may not have a strong effect on minor offenses.

Although the present methodological design does not allow for explanation of the mechanisms regarding the differential effect of adolescent religiosity between two models, the findings provide support that the effect of religious belief may be more strongly linked to certain types of offenses such as serious delinquent behaviors. In general, compared to the serious delinquent behaviors model, there are some diminished effects of exogenous variables on endogenous variables on minor delinquent model.

The study indicates that adolescent religiosity has sizeable impacts on other social factors. In other words, adolescent religiosity affects many aspects of their social lives. Adolescent religiosity appears to discourage delinquency by strengthening an adolescent's attachment and commitment to conventional society and deter delinquent behaviors through decreasing delinquent peer association. Although adolescent religiosity does not have a statistically significant direct impact on minor offenses, it deters minor offenses indirectly through other social factors. Table 2 presents the unstandardized structural equation results found from testing the final models.

This study has several limitations. First, some variables have disappointingly weak correlations and marginally acceptable reliabilities. The lack of robust relationships among items limits the legitimacy of the findings in the present study. However, this low reliability may simply imply that the composite measure of constructs may be an index, rather than a scale (Babbie, 1992, p. 167). Whereas a scale combines indicators based on

rules that are designed to reflect only a single dimension of a construct, an index refers to any combination of indicators and may be multidimensional (Singleton et al., 1993). In addition, a well-fitting measurement model in SEM suggests evidence of construct validity. Another limitation is also related to the use of self-report data, which may be vulnerable to recall bias. Also, due to social desirability, there may have been underreporting of delinquent behaviors. Finally, African American adolescents are overrepresented. While the size of minority representation is the strength of this study, a weakness is the underrepresentation of white adolescents. Thus, it should be acknowledged that the generalizability of the findings is limited. However, it should be acknowledged that minority adolescents are overrepresented in the juvenile justice population (ABA & NBA, 2001).

Implications for Social Work Practice

The results of the present study indicate that a fuller understanding of religious factors is necessary to addressing the issue of delinquency. The findings of the present study have some important implications. First, identification of religion as a protective factor may increase the ability to prevent and treat delinquent behaviors. Second, because religious factors appear to be intertwined with other social variables, juvenile delinquent intervention programs need to recognize the multiple pathways to treatment and implement comprehensive strategies that address an array of religious factors. For optimal effectiveness in preventing and treating delinquent behaviors, intervention programs need to consist of multiple components to increase multiple protective factors and decrease multiple risks.

In general, the primary implication of the present study for deterring delinquency is rather simple: increasing the religiosity of adolescents appears to have beneficial effects in preventing and decreasing delinquent behaviors. However, the problem is not a lack of knowledge and methods concerning adolescent religious development. Rather, the real challenge is to determine how to support adolescents to develop their religious beliefs without infringing on the healthy church-state relationship and professional ethics. In comparison with other protective factors, the integration of religious factors into social service provisions can be a very challenging task due to concerns related to the separation between church and state and conflicting interests and expectations. In this context, the present study may have more implications for private programs than for public-funded programs. Also, in an attempt to control this problem, many people have begun to believe that this problem can be dealt with to some degree by the use of voucher systems. Instead of asking the government to allocate funds to faith-based organizations, a possible solution might be allowing parents and clients to make decisions about social services in which they have confidence, either religious or non-religious. More and more legal precedents indicate that such arrangements can prevent the “entanglement of government with religious organizations and protect its neutrality” (Glenn, 2000, p. 271).

Social workers need to develop an understanding of the adolescent’s religious and spiritual tradition, identify resources that address diverse religious traditions, and develop supportive networks for adolescents. Social workers need to address religious diversity issues along with other forms of human diversity as critical competencies for social work

practice (Canda, 1988, Conrad, 1999). Advances in knowledge on the relationship between religious belief and delinquency will allow social workers to develop a deeper understanding of delinquent behaviors among adolescents, which will enable the application of a more holistic practice approach.

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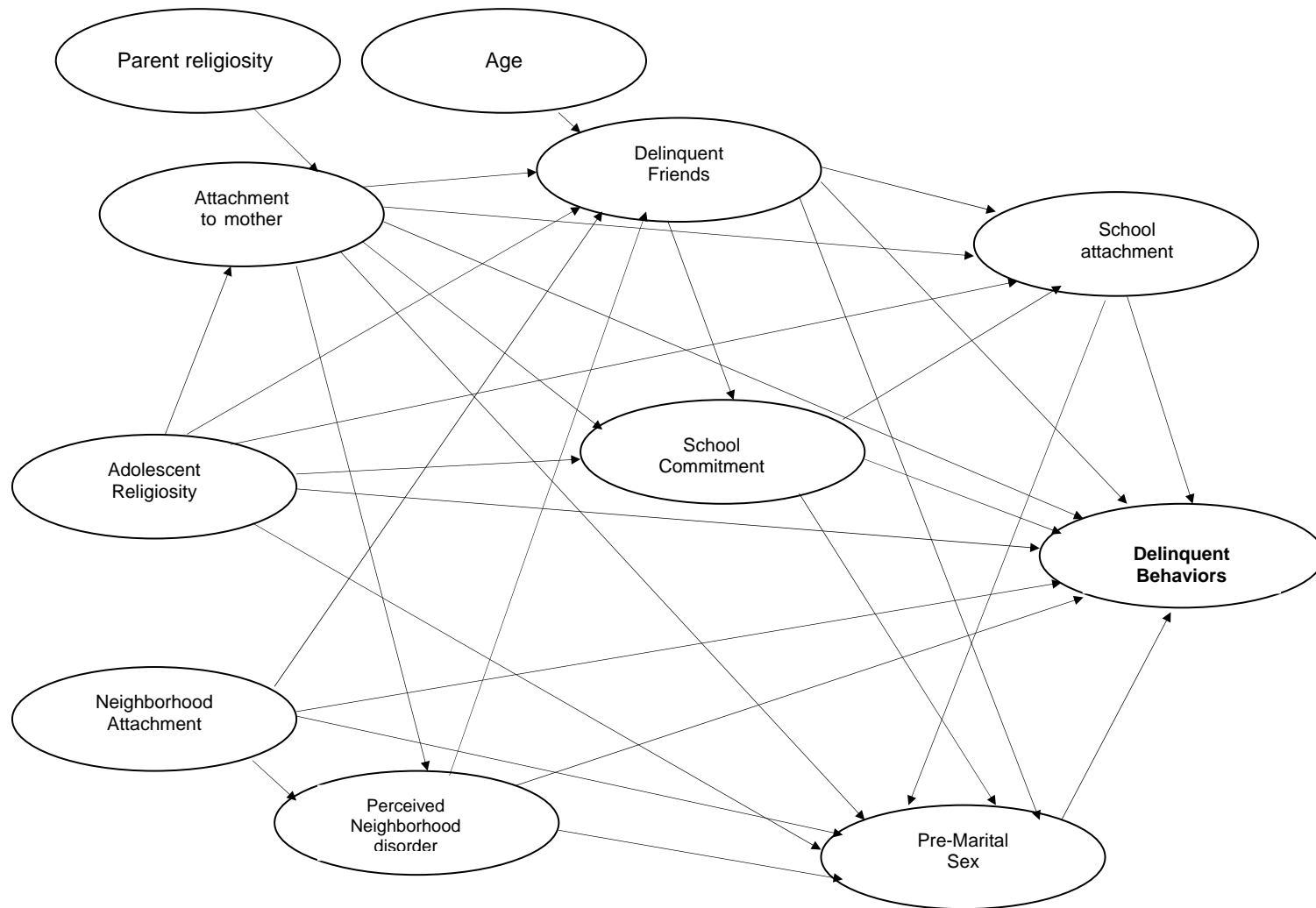


Figure 1: Hypothesized model

Table 1: *Goodness of fit results*

	Minor Delinquency	Serious Delinquency
<u>Goodness of Fit</u>		
X ²	4521.44	4578.74
Df	515	513
CFI	.91	.91
GFI	.94	.94
AGFI	.93	.93
SRMR	.048	.048
RMSEA	.042	.042
90% Confidence Interval of RMSEA	(.041, .043)	(.041, .044)
<u>Goodness of fit (Robust)</u>		
S-B X ²	4294.54	4343.88
CFI	.91	.90
RMSEA	.041	.041
90% Confidence Interval of RMSEA	(.040, .042)	(.040, .042)

Table 2: *Unstandardized parameter estimates, standard errors, and test statistics for effects of exogenous variables on endogenous variables (Minor/Serious delinquent behaviors)*

Endogenous Variables	Exogenous Variables	Z (Robust Statistics in Parentheses)			
		Minor delinquent behaviors Model		Serious delinquent behaviors model	
Attachment to Mother	Adolescent religiosity	7.55	(6.74)*	7.54	(6.74)*
	Parent religiosity	-.33	(-.29)	-.33	(-.29)
School Attachment	Attachment to mother	8.15	(7.08)*	8.13	(7.06)*
	School commitment	10.56	(9.91)*	10.46	(9.82)*
	Delinquent friend	-6.55	(-6.04)*	-6.81	(-6.23)*
	Adolescent religiosity	2.06	(2.00)*	1.96	(1.90)*
School Commitment	Attachment to mother	.683	(6.60)*	6.78	(6.54)*
	Delinquent friends	-13.59	(-12.97)*	-13.71	(-12.92)*
	Adolescent religiosity	8.20	(7.85)*	8.03	(7.67)*
Delinquent Friends	Attachment to mother	-5.43	(-4.82)*	-5.46	(-4.82)*
	Neighborhood attachment	-6.20	(-5.60)*	-6.42	(-5.77)*
	Neighborhood disorder	-.91	(-.86)	-.65	(-.64)
	Adolescent religiosity	-10.60	(-10.00)*	-10.96	(-10.29)*
	Age	16.64	(17.06)*	16.10	(16.55)*
Pre-marital sex	Attachment to mother	-3.12	(-2.97)*	-3.06	(-2.89)*
	School commitment	-2.44	(-2.32)*	-2.34	(-2.23)*
	Delinquent friends	17.42	(15.87)*	17.10	(15.25)*
	Neighborhood attachment	2.63	(2.60)*	2.70	(2.65)*
	Neighborhood disorder	2.18	(2.18)*	2.10	(2.08)*
	Adolescent religiosity	-.24	(-.24)	-.07	(-.07)
<u>Perceived</u> Neighborhood disorder	Attachment to mother	1.11	(1.11)	1.09	(1.09)
	Neighborhood attachment	-8.85	(-8.39)*	-8.68	(-8.23)*
Minor/ Serious Delinquent Behaviors	Attachment to mother	-1.20	(-1.15)	-2.54	(-2.30)*
	School attachment	-.328	(-.319)	-.52	(-.47)
	School commitment	-2.34	(-2.29)*	-4.16	(-3.87)*
	Delinquent friends	14.83	(12.48)*	12.00	(10.00)*
	Pre-marital sex	11.27	(10.25)*	8.50	(7.37)*
	Neighborhood attachment	.35	(.34)	-1.24	(-1.11)
	Neighborhood disorder	-2.99	(-2.97)*	-.15	(-.15)
	Adolescent religiosity	-.64	(-.62)	-2.00	(-1.98)*

* P < .05 two-tail test.